CIRCUIT DESIGN, INC.

UHF Narrow Band Multi Channel Transceiver

STD-302N-R 335MHz

The UHF FM narrow band semi-duplex radio module STD-302 335MHz is suitable for industrial remote control application and telemetry application operated in 335MHz ISM band. SAW filter and narrow band technique provides reliable data communication in industrial applications interference rejection and practical distance range is required. Switching time and channel selecting time become remarkably faster than a conventional transceiver. Suitable for feedback systems.

Features

- 1 mW RF power, 3.0 - 5.5 V
- Programmable RF channel
- Receiver sensitivity -119dBm
- Excellent vibration & shock resistance / Mechanical durability
- RoHS compliant
- FM narrow band

Applications

- Industrial remote control system
- Telemetry system
- Data transmission

RoHS Narrow ISM Band FSK

General

Parameter	Specification (All ratings at 25 degree C unless otherwise noted)
Communication form	Half-duplex
Frequency	335.7125 to 335. 8375 MHz
Channel step	25kHz Channel programmable (PLL IC: Fujitsu MB15E03)
Frequency stability	+/- 4 ppm (-20 to +60 degree C)
Data rate	4800 bps max. (Pulse width min.200 us, max. 20 ms)
PLL reference frequency	21.25 MHz (TCXO)
PLL response	30 ms typ. (from PLL setting to LD out)
Modulation	FSK
Supply voltage	3.0 to 5.5 V
Supply current	38 mA (TX) 26 mA (RX)
Operating temp. range	-20 to +60 C (Storage -30 to + 75 C)
TX/RX switching time	15 ms typ. (DI vs valid DO at the same frequency)
Dimension	30 X 50 X 9 mm
Weight	25 g

Transmitter part

Parameter	Specification
Transmitter type	PLL synthesizer
RF output power	1 mW at 50 ohm
Deviation	±2.4 kHz (PN9, 4800 bps)
DI input level	L = GND, H = 3 V to Vcc
Residual FM noise	0.17 kHz
Spurious emission	< -54 dBm (47M - 74M, 87.5M - 118M, 174M - 230M, 470M - 862MHz)
	< -36 dBm (Other frequencies below 1000 MHz)
	< -30 dBm (Frequencies above 1000 MHz)
Adjacent CH power	-37 dBm (CH 25 kHz, BW = 10kHz, PN9, 4800bps)

Receiver part

Parameter	Specification
Receiver type	Double superheterodyne
IF	21.7 MHz (1st), 450 kHz (2nd)
Maximum input level	10 dBm
Receiver sensitivity	-120 dBm (12 dB SINAD)
	-120 dBm (BER 1%)
	-117 dBm (0 error / 2556 bits)
Spurious response rejection	70 dB (1st Mix), 55 dB (2nd Mix)
Adjacent CH selectivity	50 dB (+/- 25 kHz)
Intermodulation	50 dB (f-200 kHz + f-100 kHz)
Spurious radiation	-57 dBm
DO output level	L = GND, H = 2.8 V

Specifications are subject to change without prior notice

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